Energy Block HYBRID

ADVANTAGES:

- PV input with 4 MPP trackers
- Back-up output (switching <20ms)
- Up to 100% three-phase unbalanced load
- Max. 120% back-up output overload for 60s
- Up to 110% mains-dependent output overload

HYBRID INVERTER GEN3	30kW-3P -3G-100	40kW-3P -3G-100	50kW-3P -3G-100	
Item number	**672406**	**672408**	**672409**	
General data				
Maximum efficiency		98,8		[%]
European efficiency		98,3		[%]
Noise development		<50		[dB]
Cooling		Internal fan		[-]
Weight		72		[kg]
Dimensions (WxHxD)		800 x 620 x 300		[mm]
Off-grid capable?		Yes		[-]
Switching time		<20		[ms]
Operating temperature min/max		-30/60		[°C]
Standby consumption		<15		[W]
Enclosure Protection class		IP65		[-]
Cascadable?		Yes, Eco: 10x Yes, Performance: 25x		[-]

Battery*				
Max. Charging/discharging current		100/100		[A]
Voltage range		135-850		[V]
Number of connections		1 plus, 1 minus		[-]
Battery type		LFP (lithium iron phosphate), 10-19 modules		[-]

AC connection*				
Nom. Output power	30	40	50	[kW]
Max. Peak power	33	44	55	[kW]
Max. Output current	50	66	83	[A]
Nom. Output voltage		400		[V]
Nom. Output frequency		50/60		[Hz]
Mains connection		3L/N/PE		[-]
Mesh type		TN network		[-]
Operating voltage		3P, 400V AC, 50Hz		[-]

PV connection*				
Number of PV MPPT		4 (with 2 string inputs each)		[-]
Recommended max. input power	45	60	75	[kW]
MPPT operating range		200-850		[V]
Max. Input current per MPPT		30 x 4		[A]
Max. Short-circuit current per MPPT		40 x 4		[A]
String connection per MPPT		2 (15A each)		[-]
Optimum MPPT operating voltage		620		[V]
Starting voltage		135		[V]
Max. DC input voltage		850		[V]

* Performance reductions of up to 10% are possible.
All information without guarantee: Subject to typing and printing errors.

BATTERY STORAGE											
Model	38.4 kWh	42.2 kWh	46.1 kWh	49.9 kWh	53.8 kWh	57.6 kWh	61.4 kWh	65.3 kWh	69.1 kWh	73.0 kWh	
General data											
Number of battery modules	10	11	12	13	14	15	16	17	18	19	[-]
Weight (without inverter)	480	572	614	656	698	740	782	824	866	908	[kg]
Dimensions (without inverter) — H	2000										[mm]
Dimensions (without inverter) — B	600	1200									[mm]
Dimensions (without inverter) — T	780										[mm]
Charging temperature range	0-40										[°C]
Discharge temperature range	0-40										[°C]
Enclosure Protection class	IP21										[-]
Battery type	LFP (lithium iron phosphate)										[-]
Number of cells per module	24										[-]
Number of battery racks	1	2									[-]
Certifications	UN38.3, IEC 62619:2022										[-]
Performance data											
Number of battery modules	10	11	12	13	14	15	16	17	18	19	[-]
Max. Storage capacity	38,4	42,2	46,1	49,9	53,8	57,6	61,4	65,3	69,1	73,0	[kWh]
Nominal voltage	384	422	461	499	538	576	614	653	691	730	[V]
Max. Charging/discharging current	100 / 100										[A]
Max. Discharge depth (DoD)	90										[%]
Max. usable storage capacity***	34,6	38,0	41,5	44,9	48,4	51,8	55,3	58,8	62,2	65,7	[kWh]
Max. Charging efficiency	98,4										[%]
Max. Discharge efficiency	97,5										[%]

Max. Charging/discharging power M-TEC Energy Block**												Inverter model
Battery model		38.4 kWh	42.2 kWh	46.1 kWh	49.9 kWh	53.8 kWh	57.6 kWh	61.4 kWh	65.3 kWh	69.1 kWh	73.0 kWh	
Charging/discharging capacity	[kW]	30										30kW-3P-3G-100
		38,4	40									40kW-3P-3G-100
		38,4	42,2	46,1	49,9	50						50kW-3P-3G-100

** Table according to nominal values, deviation due to actual SoC and/or temperatures not taken into account!
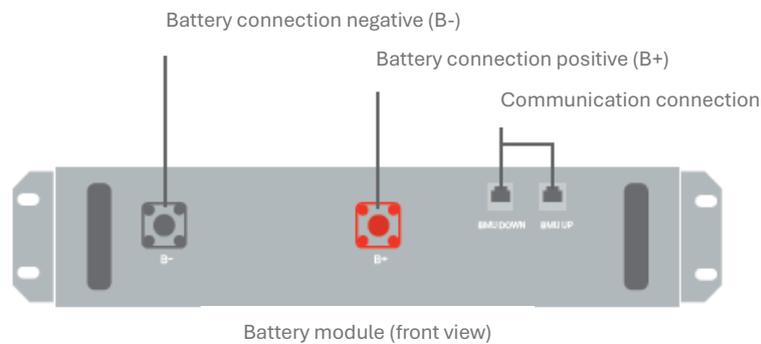*** Depth of discharge (DoD): 90%

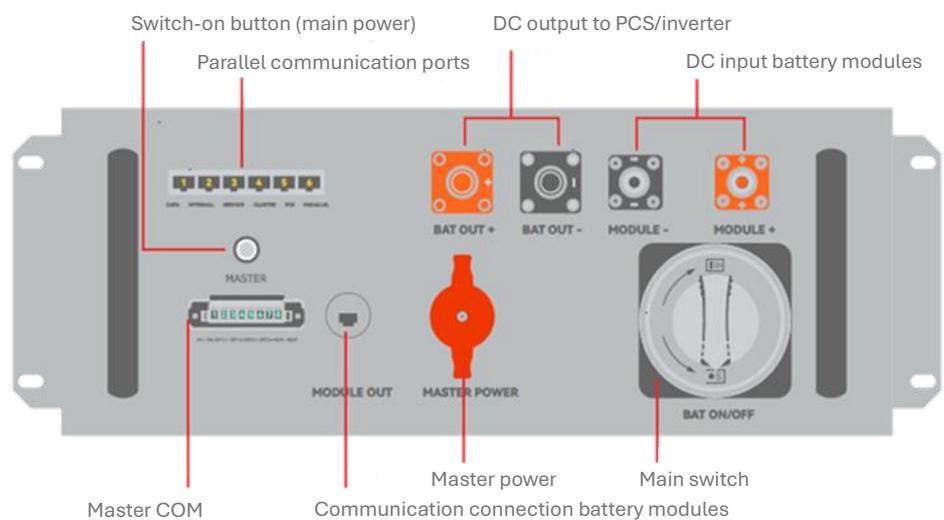| Integrated protective measures Hybrid inverter |
|---|
| Reverse polarity protection for PV input, reverse polarity protection for battery input, insulation impedance protection, overvoltage protection, overtemperature protection, leakage current protection, anti-islanding protection, AC overvoltage protection, overload protection, short-circuit protection |

Hybrid inverter connections
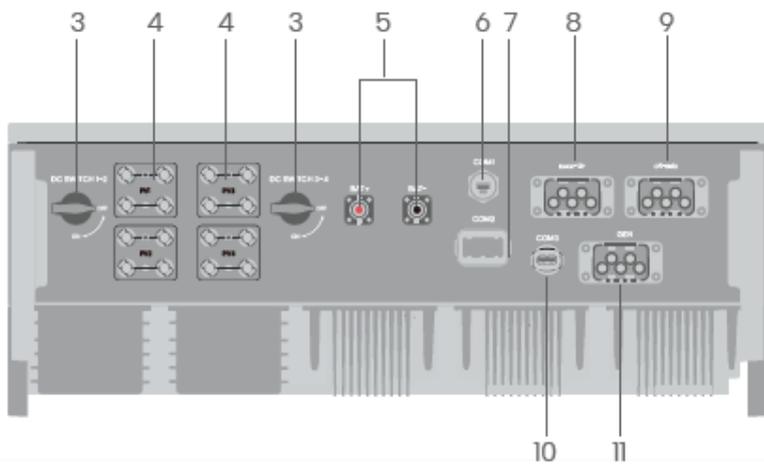
3	PV switch
4	PV inputs
5	Battery input
6	Communication port COM1
7	Communication port COM2
8	Mains input
9	Back-up output
10	Communication port COM3
11	Generator input

Battery connection

Battery connection negative (B-)

Battery connection positive (B+)

Communication connection

Battery module (front view)

Master BMS and sub-master BMS connections

Switch-on button (main power)

Parallel communication ports

DC output to PCS/inverter

DC input battery modules

Master COM

Communication connection battery modules

Master power

Main switch

Electrical connection hybrid inverter

PE
N
L1
L2
L3
ELECTRICITY GRID

ELECTRICITY METER FOR BILLING PURPOSES

S1 (RED)
S2 (YELLOW)

SMART METER

CT-3
CT-2
CT-1

TO SMART METER

AC CIRCUIT BREAKER

CONSUMER

PV MODULES

BATTERY

GENERATOR

BACKUP CONSUMER
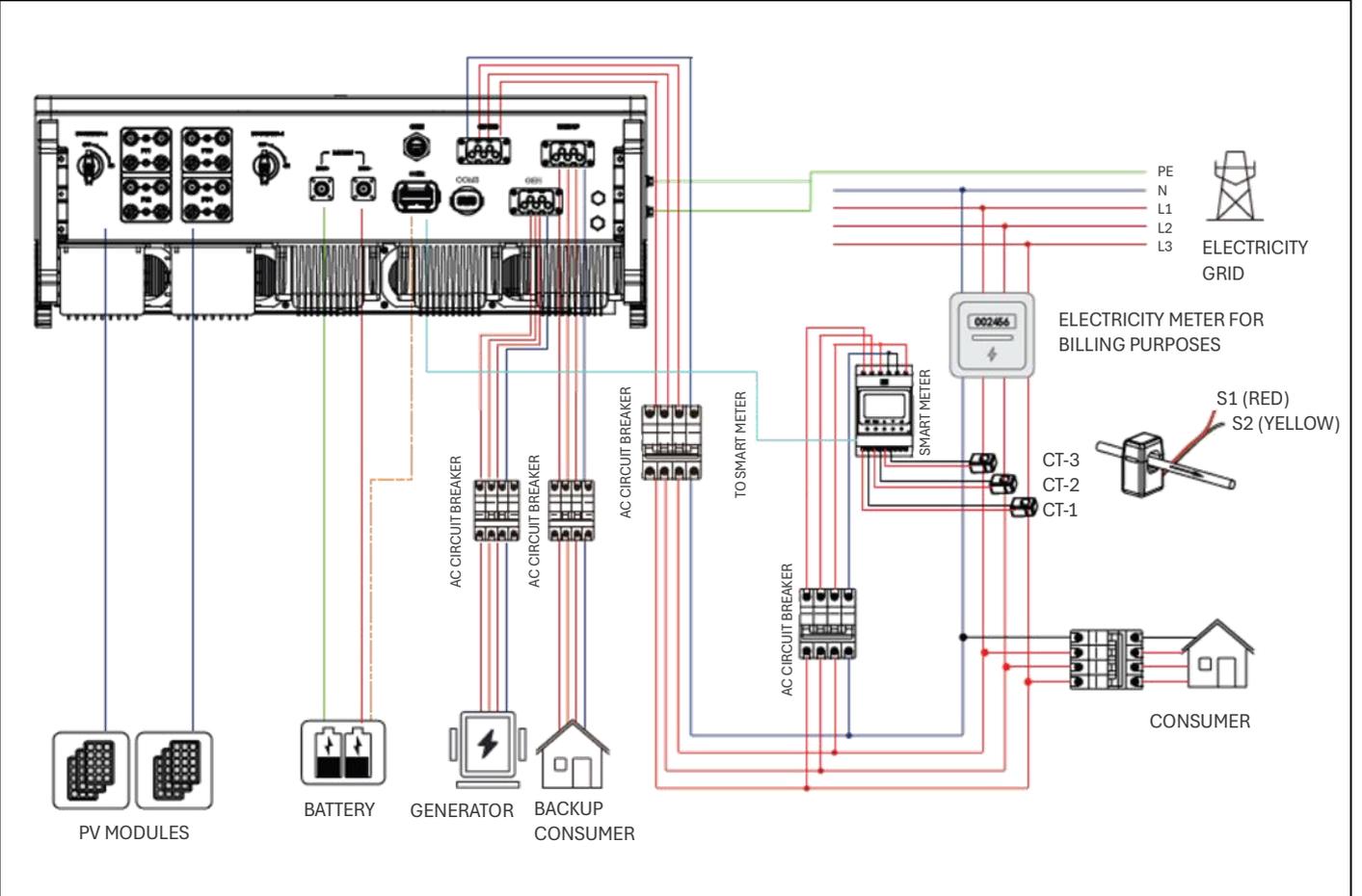
Overall system connection diagram (battery - EMS - inverter)

INVERTER

PV

SMART METER

ELECTRICITY GRID

CONSUMER

BATTERY

EMS

BACKUP CONSUMER